

Serial No.: 09/910,601

16

IN THE CLAIMS

- AS
1. (Original) An integrated telecommunications network element comprising:
 - a plurality of add-drop-multiplexers, each multiplexer having one or more communications ports, each port carrying communications traffic that may include one or more port tributaries;
 - a digital cross-connect configured to route communications traffic among the tributaries;
 - and
 - a controller configured to create one or more logical tributaries between the digital cross-connect and the ports by mapping one or more port tributaries into a logical tributary.
 2. (Original) The network element of claim 1 wherein:
 - the controller is configured to route working traffic from a port through a logical tributary to the digital cross-connect.
 3. (Original) The network element of claim 2 wherein:
 - the controller is responsive to one or more provisioning commands from a user by provisioning cross-connections between logical tributaries.
 4. (Original) The network element of claim 2 wherein:
 - the controller is responsive to a provisioning command from a user to provision working and protection paths from one port to another by determining the switching status of port tributaries.
 5. (Original) The network element of claim 2 wherein:
 - the controller is responsive to one or more commands received from a user by establishing a port protection group.
 6. (Original) The network element of claim 5 wherein:

Serial No.: 09/910,601

17

the controller is responsive to one or more provisioning commands from a user by determining whether a port associated with a particular port tributary is a member of a port protection group.

7. (Original) The network element of claim 6 wherein:

the controller is responsive to one or more provisioning commands from a user by determining what type of port protection group the port is a member of.

8. (Original) The network element of claim 6 wherein:

the controller is responsive to one or more provisioning commands from a user by determining the state of protection switching.

9. (Original) The network element of claim 2 wherein:

the controller is responsive to one or more commands received from a user by establishing a path protection group.

10. (Original) The network element of claim 9 wherein:

the controller is responsive to one or more provisioning commands from a user by determining whether a path associated with a particular port tributary is a member of a path protection group.

11. (Original) The network element of claim 10 wherein:

the controller is responsive to one or more provisioning commands from a user by determining what type of path protection group the port is a member of.

12. (Original) The network element of claim 10 wherein:

the controller is responsive to one or more provisioning commands from a user by determining the state of protection switching.

Serial No.: 09/910,601

18

13. (Original) The network element of claim 2 wherein:

the controller is responsive to commands from a user directed toward a logical tributary by identifying a port tributary corresponding to the logical tributary.

14. (Original) The network element of claim 2 wherein:

the controller is responsive to commands from a user directed toward a logical tributary by determining which of a plurality of port tributaries is to be employed as a working tributary.

15. (Original) The network element of claim 2 wherein:

the controller is responsive to commands from a user directed toward a logical tributary by determining which of a plurality of port tributaries is to be employed as a protection tributary.

16. (Original) The network element of claim 2 wherein:

the controller is responsive to a port access identifier by retrieving network equipment information from the access identifier.

17. (Original) The network element of claim 2 wherein:

the controller is responsive to a tributary access identifier by retrieving network equipment information from the access identifier.

18. (Original) The network element of claim 2 wherein:

the controller is responsive to one or more user commands by establishing an atomic cross connection.

19. (Original) The network element of claim 2 wherein:

Serial No.: 09/910,601

19

the controller is responsive to one or more user commands by modifying a provisionable set of path protection groups.

20. (Original) The network element of claim 2 wherein:

the controller is responsive to one or more user commands by provisioning a cross-connection between logical tributaries.

21. (Original) In a multi-port telecommunications network element, a method for switching traffic :

A) receiving communications traffic at one communications port of a plurality of add-drop-multiplexers, each multiplexer having one or more communications ports, each port carrying communications traffic that may include one or more port tributaries;

B) routing the communications traffic from a port tributary through a digital cross-connect configured to route communications traffic among the tributaries;

C) a controller creating one or more logical tributaries between the digital cross-connect and the ports by mapping one or more port tributaries into at least one logical tributary; and

D) the controller provisioning traffic among port tributaries in response to commands to provision traffic among logical tributaries.

22. (Original) The method of claim 21 wherein:

E) the controller routes working traffic from a port through a logical tributary to the digital cross-connect.

23. (Original) The method of claim 22 wherein:

F) the controller determines the switching status of port tributaries in response to a provisioning command from a user to provision working and protection paths from one port to another.

Serial No.: 09/910,601

20

24. (Original) The method of claim 22 wherein:

G) the controller establishes a port protection group in response to one or more commands received from a user.

25. (Original) The method of claim 24 wherein:

H) the controller determines whether a port associated with a particular port tributary is a member of a port protection group in response to one or more provisioning commands from a user.

26. (Original) The method of claim 25 wherein:

I) the controller determines what type of port protection group a port is a member of in response to one or more provisioning commands from a user.

27. (Original) The method of claim 25 wherein:

J) the controller determines the state of protection switching in response to one or more provisioning commands from a user.

28. (Original) The method of claim 22 wherein:

K) the controller establishes a path protection group in response to one or more commands received from a user.

29. (Original) The method of claim 28 wherein:

L) the controller determines whether a path associated with a particular port tributary is a member of a path protection group in response to one or more provisioning commands from a user.

30. (Original) The method of claim 29 wherein:

Serial No.: 09/910,601

21

M) the controller determines what type of path protection group the port is a member of in response to one or more provisioning commands from a user.

31. (Original) The method of claim 29 wherein:

N) the controller determines the state of protection switching in response to one or more provisioning commands from a user.

32. (Original) The method of claim 22 wherein:

O) the controller identifies a port tributary corresponding to the logical tributary in response to commands from a user directed toward a logical tributary.

33. (Original) The method of claim 22 wherein:

P) the controller determines which of a plurality of port tributaries is to be employed as a working tributary in response to commands from a user directed toward a logical tributary.

34. (Original) The method of claim 22 wherein:

Q) the controller determines which of a plurality of port tributaries is to be employed as a protection tributary in response to commands from a user directed toward a logical tributary.

35. (Original) The method of claim 22 wherein:

R) the controller retrieves network equipment information from a port access identifier.

36. (Original) The method of claim 22 wherein:

S) the controller retrieves network equipment information from a tributary access identifier.

Serial No.: 09/910,601

22

37. (Original) The method of claim 22 wherein:

T) the controller by establishing an atomic cross connection in response to one or more user commands.

38. (Original) The method of claim 22 wherein:

U) the controller modifies a provisionable set of path protection groups in response to one or more user commands.

39. (Original) The method of claim 22 wherein:

W) the controller provisions a cross-connection between logical tributaries in response to one or more user commands.